REMARKS

The Final Office Action mailed November 18, 2003 has been received and carefully reviewed. Claims 1-69 have been cancelled. New claims 70-147 have been added. Claims 70-147 are pending in the application.

In paragraph 2 on page 2 of the Office Action, claims 1-69 were rejected under 35 U.S.C. § 103(a) over Haaland (U.S. Patent Pub. No. 2002/0059047) in view of Obremski (U.S. Patent No. 5,498,875) and in further view of Gupta (U.S. Patent No. 5,319,586).

Applicants respectfully traverse the rejection. To establish a *prima facie* case for rejection under 35 U.S.C. § 103(a), all the claim limitations must be taught or suggested by the prior art and evidence of motivation to combine prior art teachings must be presented. *See,* MPEP §§ 2143.03 and 2143.01 respectively. In this instance, as described below, neither of the requirements is present and a *prima facie* rejection fails under 35 U.S.C. § 103(a), and thus Applicants respectfully traverse the rejection.

Applicants respectfully submit that Haaland fails to disclose, teach or suggest all elements of the claim. Applicants' invention, as recited in the independent claims, requires "transforming a plurality of sequential spectra obtained from a spectrometer to provide an array of row vectors compensated for effects of drift of data along the independent variable axis" to compensating a set of spectra measurements for the effects of spectral drift of the data along the independent variable axis.

Haaland merely discloses a method for adjusting the calibration of a spectrometer. Haaland calibrates the spectrometer by adding a spectral shape associated with a source of variation to a prediction model. The prediction model is used to form a hybrid calibration model.

Thus, Haaland does not teach "transforming sequential spectra obtained from a spectrometer to provide an array of drift-compensated row vectors." Moreover, Haaland's spectral shape varies only in the y (or dependent variable) axis. Because Haaland does not suggest transforming a plurality of sequential spectra obtained from a spectrometer to provide an array of row vectors compensated for effects of drift of data along the independent variable axis, Haaland cannot account and adjust for spectra data for drift of data along the independent variable axis, which may, for example, result from charging of underlying layers of the structure being analyzed via the spectrometer.

In addition, because Haaland does not suggest transforming a plurality of sequential spectra obtained from a spectrometer to provide an array of row vectors compensated for effects of drift of data along the independent variable axis, Haaland cannot suggest performing a factor analysis on the array of row vectors (i.e., drift-compensated row vectors) to provide a set of principal factors compensated for effects of drift of data along the independent variable axis. Moreover, because Haaland does not suggest transforming a plurality of sequential spectra obtained from a spectrometer to provide an array of row vectors compensated for effects of drift of data along the independent variable axis and does not suggest performing a factor analysis on the array of row vectors (i.e., drift-compensated row vectors) to provide a set of principal factors compensated for effects of drift of data along the independent variable axis, Haaland cannot suggest generating compositional profiles compensated for effects of drift of data along the independent variable axis from the set of principal factors.

Obremski fails to remedy the deficiencies of Haaland. Obremski merely suggest using target factor analysis. Nowhere in Obremski is the subject of transforming sequential spectra to compensate for effects of drift of data along the independent variable axis ever mentioned.

Thus, Obremski also does not teach "transforming sequential spectra obtained from a spectrometer to provide an array of row vectors compensated for effects of drift of data along the independent variable axis."

Applicants respectfully submit that the Section 103(a) rejection based on Haaland in view of Obremski is improper because combination of the references do not teach, disclose or suggest at least the first element of Applicants' claim and therefore should be withdrawn.

Moreover, for the reason stated above, Obremski cannot teach performing a factor analysis on the array of row vectors (i.e., drift-compensated row vectors) to provide a set of principal factors compensated for effects of drift of data along the independent variable axis or generating compositional profiles compensated for effects of drift of data along the independent variable axis from the set of principal factors.

Dependent claims 71-88, 90-104, 106-127, 129-144 and 146 are also patentable over the references, because they incorporate all of the limitations of the corresponding independent claims. Further, dependent claims 71-88, 90-104, 106-127, 129-144 and 146 recite additional novel elements and limitations. Applicants reserve the right to argue independently the

patentability of these additional novel aspects. Therefore, Applicants respectfully submit that dependent claims 71-88, 90-104, 106-127, 129-144 and 146 are patentable over the cited patent.

Moreover, Applicants respectfully traverse the Section 103(a) rejections because the Office Action fails to present any evidence that one skilled in the art would be motivated to combine the cited Haaland, Obremski and Gupta references. A Section 103(a) rejection can only be established by combining cited references to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *See*, MPEP § 2143.01. The Office Action alleges various teachings in the Haaland, Obremski and Gupta references without citing any evidence in the Haaland, Obremski or Gupta reference that one skilled in the art would combine the alleged teachings to achieve Applicant's claimed invention. Absent any support, the Office Action expresses the conclusory opinion that the references are combinable.

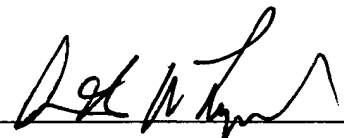Applicants submit that all claims are in condition for allowance.

On the basis of the above amendments and remarks, it is respectfully submitted that the claims are in immediate condition for allowance. Accordingly, reconsideration of this application and its allowance are requested.

If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Attorney for Applicant, David W. Lynch, at 651-686-6633 Ext. 116.

Respectfully submitted,

CRAWFORD MAUNU PLLC
1270 Northland Drive, Suite 390
Saint Paul, MN 55120
(651) 686-6633

By: _____
Name: David W. Lynch
Reg. No.: 36,204